

Attorney Docket No.: DRE-0055
Inventors: Laurencin et al.
Serial No.: 09/878,641
Filing Date: June 11, 2001
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REMARKS

Claims 1-11 are pending in the instant application. Claims 1-11 have been rejected. Reconsideration is respectfully requested in light of the following remarks.

Rejection of Claims 1-11 under 35 U.S.C. § 103(a)

Claims 1 and 6 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Hlavacek et al. in view of Chervitz (U.S. Patent 4,917,699). The Examiner has acknowledged that Hlavacek et al. does not teach a three-dimensional braided scaffold formed using a three-dimensional textile braiding technique. However, the Examiner suggests that Chervitz teaches a prosthetic ligament comprising a three-dimensional braided scaffold formed using a three-dimensional textile braiding technique in order to get an individual strand of fiber to extend in all directions within the prosthetic ligament to generate strength and elasticity akin to that for natural ligaments. The Examiner suggests that it would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to look to the teachings of Chervitz to modify the flat braid scaffold of Hlavacek to a three-dimensional braided scaffold formed using a three-dimensional textile braiding technique in

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order for the prosthetic ligament to generate strength and elasticity akin to that for natural ligaments.

Claims 2-5 and 7-11 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Hlavacek et al. in view of Chervitz, and further in view of Vacanti. The Examiner suggests that Hlavacek et al., as modified by Chervitz, discloses a ligament or tendon implant with all the elements of claims 1 and 2, but is silent to the scaffold being seeded with cells. The Examiner suggests that Vacanti teaches a replacement construct comprising a degradable, polymeric fiber-based, porous scaffold seeded with cells. Thus, the Examiner suggests that it would have been obvious to one of ordinary skill in the art at the time of Applicants' invention to look to the teachings of Vacanti et al. to modify the ligament implant of Hlavacek et al. and Chervitz.

Applicants respectfully traverse these rejections.

MPEP § 2143 sets forth three basic criteria which must be met to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable

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expectation of success. Finally, the prior art must teach or suggest all claim limitations.

As acknowledged by the Examiner, Hlavacek et al. and Vacanti do not teach three-dimensional braided scaffolds not techniques for thru-dimensional braiding.

Further, while Chervitz teaches a three-dimensional braiding technique, their technique is performed with ultra high molecular weight polyethylene fibers (see Col. 2, lines 43-68). These fibers are comprised of some of the strongest, most resilient polymers known.

In contrast, fibers of the present invention are **degradable**, porous, polymeric fibers. Prior to the present invention, three dimensional braiding of degradable polymers had not been successfully performed due to the nature of the mechanical forces involved and the differences in the mechanical properties of degradable fibers versus fibers such as taught by Chervitz. Accordingly, the teaching of Chervitz are in no way predictive of successfully producing a three dimensional braided scaffold of degradable polymeric fibers.

Thus, this combination of references, two of which are silent with respect to three dimensional braiding techniques and

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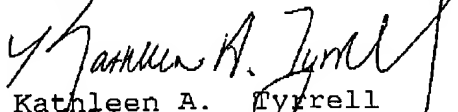
a third, which utilizes different fibers with different mechanical properties to those claimed in the instant invention, provides no reasonable expectation of success with respect to the instant claimed invention. Therefore, this combination of references does not meet all the criteria to establish a prima facie case of obviousness with respect to the instant claimed invention (see MPEP§2143).

Withdrawal of these rejections under 35 U.S.C. § 103(a) is therefore respectfully requested.

Conclusion

Applicants believe that the foregoing comprises a full and complete response to the Office Action of record. Accordingly, favorable reconsideration and subsequent allowance of the pending claims is earnestly solicited.

Respectfully submitted,


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